



US 20220054357A1

(19) **United States**(12) **Patent Application Publication****Lanier, JR. et al.**(10) **Pub. No.: US 2022/0054357 A1**(43) **Pub. Date: Feb. 24, 2022**(54) **METHOD FOR FLUID DELIVERY**(71) Applicant: **DEKA Products Limited Partnership**,  
Manchester, NH (US)(72) Inventors: **Gregory R. Lanier, JR.**, Merrimack,  
NH (US); **Richard J. Lanigan**,  
Concord, NH (US); **Stephen L.**  
**Fichera**, Salem, NH (US); **Dean**  
**Kamen**, Bedford, NH (US); **Larry B.**  
**Gray**, Merrimack, NH (US)(21) Appl. No.: **17/466,090**(22) Filed: **Sep. 3, 2021****Related U.S. Application Data**

(60) Division of application No. 16/164,378, filed on Oct. 18, 2018, now Pat. No. 11,166,877, which is a continuation of application No. 14/537,040, filed on Nov. 10, 2014, now Pat. No. 10,105,286, which is a continuation of application No. 12/981,234, filed on Dec. 29, 2010, now Pat. No. 8,881,774, which is a continuation-in-part of application No. 12/649,681, filed on Dec. 30, 2009, now Pat. No. 10,188,787, which is a continuation-in-part of application No. 12/347,985, filed on Dec. 31, 2008, now Pat. No. 8,491,570, said application No. 12/649,681 is a continuation-in-part of application No. 12/347,982, filed on Dec. 31, 2008, now Pat. No. 9,526,830, said application No. 12/649,681 is a continuation-in-part of application No. 12/347,984, filed on Dec. 31, 2008, now Pat. No. 8,414,563.

(60) Provisional application No. 61/142,042, filed on Dec. 31, 2008, provisional application No. 61/225,794, filed on Jul. 15, 2009, provisional application No. 61/018,054, filed on Dec. 31, 2007, provisional application No. 61/018,042, filed on Dec. 31, 2007, provisional application No. 61/017,989, filed on Dec. 31, 2007, provisional application No. 61/018,002, filed on Dec. 31, 2007, provisional application No. 61/018,339, filed on Dec. 31, 2007, provisional application No. 61/023,645, filed on Jan. 25, 2008, provisional application No. 61/101,053, filed on Sep.

29, 2008, provisional application No. 61/101,077, filed on Sep. 29, 2008, provisional application No. 61/101,105, filed on Sep. 29, 2008, provisional application No. 61/101,115, filed on Sep. 29, 2008, provisional application No. 61/018,054, filed on Dec. 31, 2007, provisional application No. 61/018,042, filed on Dec. 31, 2007, provisional application No. 61/017,989, filed on Dec. 31, 2007, provisional application No. 61/018,002, filed on Dec. 31, 2007, provisional application No. 61/018,339, filed on Dec. 31, 2007, provisional application No. 61/023,645, filed on Jan. 25, 2008, provisional application No. 61/101,053, filed on Sep. 29, 2008, provisional application No. 61/101,077, filed on Sep. 29, 2008, provisional application No. 61/101,105, filed on Sep. 29, 2008, provisional application No. 61/101,115, filed on Sep. 29, 2008, provisional application No.

(Continued)

**Publication Classification**(51) **Int. Cl.****A61J 1/20** (2006.01)**A61M 5/168** (2006.01)**A61M 39/08** (2006.01)**A61M 5/142** (2006.01)**A61J 1/14** (2006.01)(52) **U.S. Cl.**CPC ..... **A61J 1/2065** (2015.05); **A61M 5/16809**  
(2013.01); **A61M 39/08** (2013.01); **A61M**  
**5/152** (2013.01); **A61M 5/14224** (2013.01);  
**A61J 1/1406** (2013.01); **A61J 1/2096**  
(2013.01); **A61M 5/14248** (2013.01)

(57)

**ABSTRACT**

A fill adapter for filling a reservoir and a related method are disclosed herein. The fill adapter includes a button assembly actuator and a pump chamber plunger actuator hingeably attached to the button assembly actuator, wherein the actuation of the button assembly actuator actuates the pump chamber plunger actuator and wherein the pump chamber plunger actuator actuates a pump chamber membrane before the at least one button assembly is actuated.

350

